

March 29, 2001

Mr. Todd Gilpin
Gilpin Ironworks
1819 Patterson Street
Decatur, Indiana 46733

Re: 001-13781
First Permit Modification to:
Part 70 permit No.: 001-6776-00015

Dear Mr. Gilpin:

Gilpin Ironworks was issued Part 70 operating permit 001-6776-00015 on December 18, 1998 for a wrought iron product manufacturing operation. A letter requesting changes to this permit was received on December 5, 2000. Pursuant to 326 IAC 2-7-12, a minor permit modification to this permit is hereby approved as described in the attached Technical Support Document.

This modification consists of the addition of a pyrolysis cleaning furnace with a direct flame afterburner for control. The new unit will be incorporated into the Title V permit as an insignificant unit.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Kate Huckelbridge, ERG, P.O. Box 2010, Morrisville, North Carolina 27560, or call (919) 468-7840 to speak directly to Ms. Huckelbridge. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,
Original signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments

ERG/KH

cc: File - Adams County
U.S. EPA, Region V
Adams County Health Department
Air Compliance Section Inspector - Jim Thorpe
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

**PART 70 OPERATING PERMIT
and ENHANCED NEW SOURCE REVIEW
OFFICE OF AIR QUALITY**

**Gilpin Ironworks
1819 Patterson Street
Decatur, Indiana 46733-0471**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T 145-7557-00043	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date:

First Minor Source Modification 001-13576-00015, issued on **(need date)**

First Minor Permit Modification 001-13781	Pages Affected: 2, 2a, 25, 26, 26a
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality <i>Original signed by Paul Dubenetzky</i>	Issuance Date: March 29, 2001

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary aluminum metal aircraft and travel trailer parts fabrication plant.

Responsible Official:	Ralph Sample
Source Address:	1819 Patterson Street, Decatur, Indiana 46733-0471
Mailing Address:	P.O. Box 471, Decatur, IN 46733-0471
SIC Code:	3446
County Location:	Adams
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source under PSD Rules; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (1) One (1) conveyORIZED coating line, with a maximum capacity of 2000 pounds of metal parts per hour, and exhausting to stack 001, consisting of three (3) dip tanks, described as follows:
 - (a) 003 (trichloroethylene dip), using work practices and 0.75 freeboard ratio as control,
 - (b) 002 (wash primer dip), using no control, and
 - (c) 001 (coating dip), using no control.
- (b) One (1) floor flange coating dip line, identified as 004, with a maximum capacity of 44 pounds of metal parts per hour, using no control, and exhausting to stack 001.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (1) Space heaters, process heaters, or boilers using the following fuels:
 - (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour (210,000 Btu/hr boiler).
- (2) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6 (Trichloroethylene degreaser, D-1, with a maximum throughput to 120 gallons per 12 months).

- (3) Activities with a potential uncontrolled emissions equal to or less than the insignificant thresholds described in 326 IAC 2-7-1(21): One (1) pyrolysis cleaning furnace, with a maximum heat input capacity of 500,000, Btu/hr, using a direct flame afterburner for control, and exhausting to stack #6.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with any volatile organic compound limit shall be determined by a performance test conducted in accordance with Section C Performance Testing.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.5 Record Keeping Requirements

- (a) To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1.
 - (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (2) A log of the dates of use;
 - (3) The volume weighted VOC content of the coatings used for each month;
 - (4) The cleanup solvent (including halogenated solvent) usage for each month;
 - (5) The total VOC usage for each month; and
 - (6) The weight of VOCs emitted for each compliance period.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] Insignificant Activities:

- (1) Space heaters, process heaters, or boilers using the following fuels:
 - (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour (210,000 Btu/hr boiler).
- (2) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6 (Trichloroethylene degreaser, D-1, with a maximum throughput to 120 gallons per 12 months).
- (3) Activities with a potential uncontrolled emissions equal to or less than the insignificant thresholds described in 326 IAC 2-7-1(21): One (1) pyrolysis cleaning furnace, with a maximum heat input capacity of 500,000, Btu/hr, using a direct flame afterburner for control, and exhausting to stack #6.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter (PM) emissions from the 0.21 million BTU/hour boiler shall be limited to 0.8 pound per million BTU heat input.

D.2.2 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator of the cold cleaning facility shall:

- (1) Equip the cleaner with a cover;
- (2) Equip the cleaner with a facility for draining cleaned parts;
- (3) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (5) Provide a permanent, conspicuous label summarizing the operation requirements;
- (6) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.2.3 Burning Regulations [326 IAC 4-2-2]

Pursuant to 326 IAC 4-2-2, the pyrolysis cleaning furnace shall:

- (a) Consist of primary and secondary chambers or the equivalent.
- (b) Be equipped with a primary burner unless burning wood products.
- (c) Comply with 326 IAC 5-1 and 326 IAC 2.
- (d) Be maintained properly as specified by the manufacturer and approved by the commissioner.
- (e) Be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner.
- (f) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators.
- (g) Be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented.
- (h) Not emit particulate matter in excess of five-tenths (0.5) pounds of particulate matter per one thousand (1,000) pounds of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air.

- (i) Not create a nuisance or a fire hazard.

If any of the above result, the burning shall be terminated immediately.

Compliance Determination Requirements

D.2.4 Particulate Matter (PM)

In order to comply with D.2.3, the afterburner for PM control shall be in operation and control emissions from the pyrolysis furnace at all times when the pyrolysis furnace is in operation.

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Part 70 Minor Permit Modification

Source Background and Description

Source Name:	Gilpin Ironworks
Source Location:	1819 Patterson Street, Decatur, IN 46733
County:	Adams
SIC Code:	3466
Operation Permit No.:	T 001-6776-00015
Operation Permit Issuance Date:	December 18, 1998
Minor Source Modification No.:	001-13781-00015
Permit Reviewer:	ERG/KH

The Office of Air Quality (OAQ) has reviewed a modification application from Gilpin Ironworks relating to the construction of the following emission units and pollution control devices:

Activities with a potential uncontrolled emissions equal to or less than the insignificant thresholds described in 326 IAC 2-7-1(21): One (1) pyrolysis cleaning furnace, with a maximum heat input capacity of 500,000, Btu/hr, using a direct flame afterburner for control, and exhausting to stack #6.

History

On December 5, 2000, Gilpin Ironworks submitted an application to the OAQ requesting to add a pyrolysis cleaning furnace to their existing plant. Gilpin Ironworks was issued a Part 70 permit on December 18, 1998.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the direct flame afterburner be considered as an integral part of the pyrolysis furnace:

The controls on the furnace are electrically interlocked so that the afterburner must be on before the primary burner (low burner) will come on in order to heat the furnace. Thus, if the afterburner is not on, the furnace will not operate. Furthermore, on this particular furnace, the lower burner will not come on to heat the furnace until the afterburner temperature has reached a minimum of 1400EF. The afterburner is actually a part of the furnace itself and is not simply an add-on device. In fact, a portion of the afterburner chamber is actually located inside of the furnace compartment. Due to the design of the furnace as explained above, it is not possible for the connection between the furnace and the afterburner to be broken.

IDEM, OAQ has evaluated the justifications and determined that the afterburner will not be considered as an integral part of the pyrolysis furnace. An electrical interlock that prevents the process from operating unless the pollution control equipment is in operation is not sufficient justification that the controls are integral. The air pollution control equipment must serve a primary purpose other than pollution control, or the process must not be able to operate without the control device. The purpose of the afterburner is solely for pollution control and the furnace could be rewired to bypass the afterburner, making it possible to operate without the control equipment. Therefore, neither criteria for considering control equipment integral to the process is met. Therefore, the permitting level will be determined using the potential to emit before the afterburner.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
#6	pyrolysis furnace		1.167	1100-1600	1400-1600

Recommendation

The staff recommends to the Commissioner that the Part 70 Minor Permit Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 5, 2000. Additional information was received on January 10, 2001.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (page 1).

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the PTE after controls because the afterburner is considered integral to the process.

Pollutant	Potential To Emit (tons/year)
PM	5.83
PM-10	5.83
SO ₂	0.79
VOC	7.62
CO	21.9
NO _x	11.87

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Minor Permit Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5 (d)(4) because the potential to emit of this modification is within the thresholds described in this section.

County Attainment Status

The source is located in Adams County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Adams County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Adams County has been classified as attainment or unclassifiable for all pollutants listed above. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	0
PM-10	0
SO ₂	0
VOC	156
CO	0

NO _x	0
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- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.
- (b) These emissions are based upon the source's Title V permit (001-6776-00015).

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

Process/facility	Potential to Emit (tons/year)						
	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Pyrolysis furnace	5.83	5.83	0.79	7.62	2.19	11.87	0

Note: There are no federally enforceable limits for this facility. As a result, the limited potential to emit is the same as the potential to emit.

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

State Rule Applicability - Individual Facilities

326 IAC 4-2-2 (Burning Regulations)

Pursuant to 326 IAC 4-2-2, the pyrolysis cleaning furnace shall:

- (a) Consist of primary and secondary chambers or the equivalent.
- (b) Be equipped with a primary burner unless burning wood products.
- (c) Comply with 326 IAC 5-1 and 326 IAC 2.
- (d) Be maintained properly as specified by the manufacturer and approved by the commissioner.
- (e) Be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner.

- (f) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators.
- (g) Be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented.
- (h) Not emit particulate matter in excess of five-tenths (0.5) pounds of particulate matter per one thousand (1,000) pounds of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air.
- (i) Not create a nuisance or a fire hazard.

If any of the above result, the burning shall be terminated immediately.

According to the specifications supplied by the manufacturer of the pyrolysis furnace, the emissions from the furnace when the afterburner is in operation will not exceed 0.25 lb PM per 1,000 lb dry exhaust gas corrected to 50% excess air. Therefore, the pyrolysis furnace is in compliance with 326 IAC 4-2-2.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

Proposed Changes

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]
[326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (1) Space heaters, process heaters, or boilers using the following fuels:
 - (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour (210,000 Btu/hr boiler).
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- (3) Activities with a potential uncontrolled emissions equal to or less than the insignificant thresholds described in 326 IAC 2-7-1(21): One (1) pyrolysis cleaning furnace, with a maximum heat input capacity of 500,000, Btu/hr, using a direct flame afterburner for control, and exhausting to stack #6.**

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] Insignificant Activities:

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Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter (PM) emissions from the 0.21 million BTU/hour boiler shall be limited to 0.8 pound per million BTU heat input.

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- (2) equip the cleaner with a facility for draining cleaned parts;
- (3) close the degreaser cover whenever parts are not being handled in the cleaner;
- (4) drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (5) provide a permanent, conspicuous label summarizing the operation requirements;
- (6) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.2.3 Burning Regulations [326 IAC 4-2-2]

Pursuant to 326 IAC 4-2-2, the pyrolysis cleaning furnace shall:

- (a) **Consist of primary and secondary chambers or the equivalent.**

- (b) Be equipped with a primary burner unless burning wood products.
- (c) Comply with 326 IAC 5-1 and 326 IAC 2.
- (d) Be maintained properly as specified by the manufacturer and approved by the commissioner.
- (e) Be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner.
- (f) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators.
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- (i) Not create a nuisance or a fire hazard.

If any of the above result, the burning shall be terminated immediately.

Compliance Determination Requirements

D.2.4 Particulate Matter (PM)

In order to comply with D.2.3, the afterburner for PM control shall be in operation and control emissions from the pyrolysis furnace at all times when the pyrolysis furnace is in operation.

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Minor Permit Modification No. 001-13781-00015.

Appendix A: Emissions Calculations
Natural Gas Pyrolysis Furnace

Page 1 of 1 TSD App A

Company Name: Gilpin Ironworks
Address City IN Zip: 1819 Patterson St., Decatur, IN 46733-0471
CP: 001-13781
Plt ID: 00015
Reviewer: ERG/KH
Date: 01/12/2001

Emission Unit: Natural Gas Pyrolysis Furnace with a direct flame afterburner (eff: 95-99%)

The source provided stack data for the furnace (emissions after controls).

Uncontrolled Emissions (tpy) * (1 - efficiency) = Controlled Emissions (tpy)

Uncontrolled Emissions (tpy) = Controlled Emissions / (1 - efficiency)

Pollutant	Maximum Afterburner Efficiency	Controlled Emissions (lb/hr)*	Controlled Emissions (tpy)	Uncontrolled Emissions (tpy)
CO	99%	0.05	0.219	21.9
NOx	99%	0.0271	0.119	11.87
PM	99%	0.0133	0.058	5.83
SOx	99%	0.0018	0.008	0.79
HC	99%	0.0174	0.076	7.62

Included in
source
modification
application.